

April 3, 1894.

Sir W. H. FLOWER, K.C.B., LL.D., F.R.S., President,
in the Chair.

The Secretary read the following report on the additions to the Society's Menagerie during the month of March :—

The registered additions to the Society's Menagerie during the month of March were 69 in number. Of these 47 were acquired by presentation, 13 by purchase, 2 were born in the Gardens, and 7 were received on deposit. The total number of departures during the same period, by death and removals, was 86 :—

Dr. Günther exhibited specimens of *Lepidosiren paradoxa*, collected by Dr. Bohls in the backwaters of the tributaries of the Upper Paraguay River (swamps of the Chaco). He pointed out a peculiar modification of the skin of the upperside of the hind limbs, which is beset by tentacle-like papillæ. These, when fully developed, are arranged in fan-like sets with from 2 to 7 branches each. This structure, he stated, is peculiar to the male sex, and is fully developed only in sexually mature specimens.

Dr. Günther expressed his doubts as to the validity of the species recently described by Professor Ehlers¹ as *Lepidosiren articulata*, from Dr. Bohls's specimens.

The specimens exhibited to the meeting did not bear out the constancy of the characters on which Professor Ehlers relied for the distinction of two species of *Lepidosiren*.

The following papers were read :—

1. Further Field-Notes on the Game-Animals of Somaliland.
By Capt. H. G. C. SWAYNE, R.E., C.M.Z.S.²

[Received February 24, 1894.]

WATERBUCK (*Cobus ellipsiprymnus*). Native name "Balanka" of the Adone (Webbe Negroes), corrupted to "Balango" by the Somalis.

I believe there are no Waterbuck in the whole of Somaliland, except on the banks of the Webbe Shabeyli. The only other place in Somaliland which might possibly contain Waterbuck would be the Lower Nogal, near the east coast. There are none on the Tug Fafan, at any of the points where I have crossed it. There are said to be plenty all along the Webbe Ganana (Juba), the course of which lies chiefly through Gallaland.

¹ Nachrichten der k. Gesellsch. Wiss. Göttingen, 1894, No. 2 (March 10).

² In continuation of his paper "On the Antelopes of Northern Somaliland," P. Z. S. 1892, p. 300.

The first important collections of the Waterbuck were made by Colonel Paget and myself on two independent but simultaneous expeditions to the Webbe last spring.

I found these Antelopes very plentiful all along both banks of the river, from Imé down to Burka in the Aulihan tribe, which was as far as I followed the stream.

They lie up in the dense forest which clothes both banks of the river for some 200 yards from the water's edge; and they go out to feed in the open grass-flats outside the forest.

They go in small herds up to about fifteen individuals, though most of the herds I saw consisted of only four or five, with one old buck.

The habits of the Somali Waterbuck are similar to those of the same species all over Africa. They feed chiefly on grass, delight in a mud-bath, and take to the water readily; a wounded buck I was following in thick forest tried to escape by swimming the Webbe, some 90 yards across, and we shot him as he galloped along the further bank. The Waterbucks on the Webbe vary much in colour, from brownish grey to nearly black.

The white lunate marking over the tail is always present; some heads have the forehead bright rufous brown, and others are nearly black in this part. The flesh is eaten by the Negroes, but not by Somalis.

The horns obtained on the Webbe are small compared to Waterbuck horns in other countries; out of some 15 heads collected by me at different times, none reached 25 inches. The females are hornless.

BUSHBUCK (*Tragelaphus decula*). Native name "Dól."

The Bushbuck is common in the dense forest on the Webbe banks; and it is the most wary and difficult to shoot of all the game-animals I have ever encountered. I never heard of its existence till my second expedition to the Webbe last autumn.

At Karanle I bought several skins and horns of "Dól" from the natives, which had been obtained by means of disguised pits, with a stake in the bottom of each. The Webbe pits are made by the Adone, and are about eight feet deep and five in diameter at the top. They are dug in the densest jungle in the paths frequented by the "Dól" when going to and returning from the water. Some of these paths are long tunnels 3 feet high, bored through the masses of vegetation for 50 yards or more. Sometimes I could only get to the river by creeping on all-fours through these tunnels; this is exciting work when it is considered that many kinds of game use them.

On my arrival at Karanle I sent skilled Negroes to repair all the pits within a mile or two of my camp, in the hope of getting a specimen.

During a month on the Webbe banks I shot only one young buck with my own rifle; but I organized three or four drives, in one of which my men shot a buck with their Sniders.

On this occasion the buck was in company with one female, which broke back through the line in spite of the firing, and in rather a curious manner. The only way of crossing the line was to jump over the head of one of my men who was standing erect; and this she did, striking him in the centre of the forehead with her hoofs and knocking him down; and so she got away.

The longest pair of horns were a pair which I picked up, measuring about 17 inches in length. Females hornless.

The young of both sexes are of a distinct reddish brown, getting darker as they grow older, and the natives say the old bucks become nearly black. The hair is generally curiously worn off along the spine.

There are four or five transverse white stripes and white spots up to about thirty on each side, more numerous in the young animals. The necks are scantily covered with short hair, and in the two young bucks we killed were very slender. The flesh is very good eating. I am not aware that the Bushbuck exists anywhere in Somaliland but in the dense forest close to the banks of the Webbe-Shabeyli river.

CLARKE'S GAZELLE (*Ammodorcas clarkei*). Somali name "Dibatag" or "Diptag."

The Dibatag is common enough where it is found at all, but it is very local in its distribution.

Since Mr. Clarke first discovered it in the distant Marehan country, to the south-east, and in the Dolbahanta country, a few have been met with and shot by sportsmen in the eastern parts of the Haud Waterless Plateau.

I have been singularly unfortunate with this Antelope, never having been in the country inhabited by it till I went to the Nogal Valley three years ago. At that time the "Jilal," or dry season, was at its height, and all game scarce and shy. I never got a Dibatag till last June, when on my return journey from Ogaden across the Waterless Plateau I made a detour of several days to the east on purpose to shoot one.

I searched for Dibatag at Tur, a jungle due south of Toyo grass-plains, the distance being some eighty miles from Berbera.

I was lucky in getting one good buck and in picking up two pairs of horns. I saw a good many Dibatag, but all were wild and shy. This is their extreme western limit, and they never by any chance come so far south as the Golis range. Further east, towards Burö, they are more plentiful and less shy.

Dibatag are very difficult to see, their purplish-grey colour matching with the high "durr" grass in the glades where they are found. Its glossy coat, shining like that of a well-groomed horse, reflects the surrounding colours, making it sometimes almost invisible; and at the best of times its slender body is hard to make out.

I have often mistaken female Waller's Gazelles for Dibatag, and

shot one of the former in mistake for the latter. The habits and gait are much the same, save that the Dibatag trots off with head held up, and the long tail held erect over the back like a stick, nearly meeting the head, while Waller's Gazelle trots away with its head down and its short tail screwed round. Like Waller's Gazelle, the Dibatag goes singly or in pairs, or small families up to half a dozen or so.

Like Waller's Gazelle also, the Dibatag is enabled by its long neck and long upper lip to reach down branches of the mimosa bushes from a considerable height. As I have mentioned before, the shape of head and way of feeding of both the Dibatag and *Lithocranius walleri* are giraffe-like, and I have seen both animals standing on the hind legs, fore feet planted against the trunk of a tree, when feeding. I think Waller's Gazelle subsists almost entirely on bushes, as they are constantly found in places deserted by Oryx and all other antelopes because there was no grass. I have seen Dibatag feeding both on thorn-bushes and on the "durr" grass. Both antelopes can live far from water.

The country most suitable for Dibatag is jungle of the "Khansa" or umbrella mimosa alternating with glades of "durr" grass, which grows about six feet high. The females are hornless.

THE SAKÁRO ANTELOPES (see P. Z. S. 1892, p. 307).¹

There are certainly two of these small Antelopes, which are called by the natives "*Sakáro Gussuli*" or "*Gussuli*," and "*Sakáro Gol-ass*" or "*Gol-ass*" (*i. e.* red-belly).

There is also a third Sakáro recognized by the Somalis, which I have often shot and generally classed with the Gol-ass. It is smaller than the Gol-ass and has yellowish grey on the sides of the belly instead of red, but is in every other respect similar. The Somalis call it "*Sakáro Guyu*" or "*Guyu*," and declare it to be a distinct variety from the Gol-ass, to be known by its smaller size and the yellow belly. It appears to be found wherever the Gol-ass is found.

I have often noticed, in about two hundred specimens that I have shot for food at one time or another during eight years, that the skulls appear to vary much in size in adult animals, but my attention was called to the third native name only at the end of my last expedition.

I will therefore consider, in the absence of proof, that there are only two kinds of this small antelope, viz. the Gussuli and the Gol-ass.

The Gol-ass is the ordinary Somali "*Sakáro*," which I have mentioned in my former paper.

I came on the "Gussuli" for the first time a day's journey south of Seyyid Mahommed's village in the Malingur tribe and all over the Rer Amaden country. Its range is very similar to that of the Rhinoceros, and it is found in many parts of the Haud,

¹ [On these Antelopes see also Mr. Oldfield Thomas's paper, below, p. 323.—P. L. S.]

where it overlaps with the range of the Gol-ass. The female Gussuli appear to be much larger than the male; and it is a pretty safe rule, when looking for a buck, to fire at the smaller one.

The Gussuli have long snouts, in shape quite different from that of the Gol-ass, being much longer and tapering to a point. They are also somewhat larger than the Gol-ass, and are recognizable in the bush by their grey colour. They start up in pairs or in threes. Sometimes the bush is alive with them, and I have seen more than a dozen run off together; but they do so only when alarmed, and are not naturally gregarious.

THE BEIRA ANTELOPE (see P. Z. S. 1892, p. 308).

"I first heard of the 'Beira' near Ali-Maan, in the Gadabursi country, among very rugged hills, in the autumn of 1891. Then my brother (Capt. E. Swayne, Bengal Staff Corps) saw two for the first time, but failed to get a shot.

"He described them as reddish Antelopes, rather larger than the Klipspringer, with small straight horns, bounding away among the rocks exactly as a Klipspringer does.

"On my last trip the Somalis assured me that I should find 'Beira' on the Wagar Mountain and on Negegr, which is its eastern continuation, is about 40 miles S.S.E. of Berbera, and rises to nearly 7000 feet. They said it was nearly as large as an ordinary flabby-nosed Gazelle, but reddish—that it inhabited ground similar to the Klipspringer, but was shy and difficult to shoot. This no doubt accounts for no European having shot one, though my brother heard of them so far back as 1891.

"I tried vainly to get 'Beira,' having no time to go again to Wagar myself. On leaving the coast last November, I sent men in to look for 'Beira,' offering a reward of 20 rs. for a good head and skin of a male and female, and gave full instructions to my agents in Berbera and Aden to pay the reward and to send me the specimens. I received the two skins and pair of horns direct from Aden, without explanation, but have no doubt whatever they are the specimens of 'Beira' which I sought. They have evidently been killed by natives, and that accounts for the imperfect condition of the specimens. To my brother is due the credit of the discovery."¹

GRÉVY'S ZEBRA (*Equus grevyi*). Somali name "Fer'ó."

Grévy's Zebra was, I think, first shot in Somaliland by Colonel Paget and myself on our simultaneous expeditions last spring.

I found them first at Durhi, in Central Ogaden, between the Tug Fafan and the Webbe, about 300 miles inland from Berbera. I shot seven specimens, all of which were eaten by myself and my

¹ [Since this paper was read the "Beira" has been described by Herr Menges (Zool. Anz. xvii. (1894) p. 130) as a new species, and called *Oreotragus megalotis*.—P. L. S.]

thirty followers; in fact for many days we had no other food; and this was no hardship whatever, as the meat is better than that of many of the antelopes. The flesh is highly prized by the Rer Amaden and Malingur tribes.

The Zebra was very common in the territory of these two tribes. The country there is covered with scattered bush over its entire surface, and is stony and much broken up by ravines; the general elevation is about 2500 feet above sea-level.

The Zebras, of which I saw probably not more than 200 in all, were met with in small droves of about half a dozen, on low plateaux covered with scattered thorn bush and glades of "durr" grass, the soil being powdery and red in colour with an occasional outcrop of rocks. In this sort of country they are very easy to stalk, and I should never have fired at them for sport alone. I saw none in the open flats of the Webbe valley, and they never come near so far north as the open grass-plains of the Haud, Durhi south of the Fafan being their northern limit.

The young Zebras have longer hair and the stripes are rather light brown, turning to a deep chocolate, which is nearly black in adult animals.

After firing at one of a drove of Zebras I was sorry to find on going up to it that it was a female, and that its foal was standing by the body, refusing to run away though the rest had all gone. We crept up to within ten yards of it, and made an unsuccessful attempt to noose it with a rope weighted by bullets, but it made off after the first try. We must have been quite five minutes standing within ten yards in the thick bush while we were preparing the noose.

Zebras are very inquisitive; when I was encamped for some days at Eil-Fúd, in the Rer Amaden country, the Zebras used to come at night and bray and stamp round our camp, and were answered by my Abyssinian mule. The sounds of the two animals are very similar.

BLACK RHINOCEROS (*Rhinoceros bicornis*). Native name "Wijil."

For many years the Two-horned Rhinoceros has been known to exist in the interior of Somaliland, and going further in every year I have constantly been expecting to come upon their ground.

The first Somali Rhinoceroses were shot by my brother and myself in our expedition to the Abyssinian Border in August 1892, and since then only a few have been shot by Europeans.

They come far north of the range of the Zebras, sometimes wandering as far as the open grass-plains of Toyo, a hundred miles south of Berbera, where they hide in the patches of "durr" grass. They are common in the south-eastern Haud; I never found any signs of them in many expeditions in the Habr Awat, Esa, and Gadabursi countries. They are most common in the valley of the Tug Fafan, and thence in the whole of the country as far as the

Webbe, and they are plentiful beyond in Galla-land. They are said to exist to the south-east of Berbera, but I never saw any traces of them.

We found the Rhinoceros the most stupid game-animal we have encountered, and easily approached if the wind is right. They were not more prone to charge than Elephants, and I only had one narrow escape. I have never seen more than three together.

The ground they like best is very stony broken hills with some river-bed not too many miles distant, where they can go at night to drink and bathe. They travel considerable distances to the river and wander all night up and down the channel looking for a convenient pool, and making a maze of tracks in the soft sand.

The Abbasgul, Malingur, and Rer Amaden tribes eat their flesh when hungry, and I found it very good and lived for a week on it.

We could usually cut from 15 to 30 shields from each Rhinoceros, $\frac{3}{4}$ inch thick and 15 inches in diameter, worth about a dollar apiece at the coast.

Everywhere in Central Ogaden the caravan-tracks are furrowed in grooves a yard or more long and six inches deep, which look like the work of a plough. This is done by the Rhinoceros plunging his front horn and hard thick lip into the ground as he walks along.

A good pair of bull's horns measure 19 inches for the front and 5 inches for the back one.

MISCELLANEOUS NOTES.

Besides the animals mentioned in this and my previous paper, the game-animals seen by me in Somaliland include Lions, Elephants, Leopards, Wart-Hogs, and Ostriches.

The Spotted Hyæna is very common, and the Striped Hyæna rather rare. There is a wild dog, called "Yey," which I have never seen or shot.

Crocodiles swarm in the Webbe-Shabeyli river. I had a horse dragged into the river and killed by one. There are a few schools of Hippopotami, one of which had its usual abode near Sen-Moretu, but I failed to find it, only coming upon the fresh tracks.

There are Giraffes in the Aulihan country, three days from Burka, but I gave them up for the chance of going to the Arussi Gallas.

While on the Webbe I heard that four Buffaloes, all bulls, had strayed from the Geriré Galla country, through eighty miles of bush, and had taken up their abode in the forest on the Webbe banks at Sen-Moretu, four years before my visit to that spot. My informant, a Gilimiss Somali, told me his father had killed two of them, two years before, with poisoned arrows, and that two remained.

I found their fresh tracks, the first I had ever seen, and tried very hard for two days to get a sight of them. We put them up

eight times at a few yards distance in the fearfully dense forest, without once seeing them, and organizing a drive next day they broke through the line of beaters and got away, making for the distant Galla Hills. These are the only Buffaloes I ever heard of in Somaliland.

They are said by the Gallas to be plentiful on the Webbe Web, a tributary of the Juba, three days distant from Karanle.

2. On the Dwarf Antelopes of the Genus *Madoqua*.

By OLDFIELD THOMAS, F.Z.S.

[Received March 17, 1894.]

The genus *Madoqua* (by which name, as Mr. Sclater has pointed out, *Neotragus* of most authors should be known¹) consists up to the present of three species—*M. saltiana*, Blainv., from Abyssinia, *M. kirki*, Günth., from S. Somali and E. Africa, and *M. damarensis*, Günth.², from Damaraland. During the recent opening up of the fauna of Somaliland, the North-Somali specimens, without any very detailed comparison, have been referred to *M. saltiana*, and the Central-Somali ones to *M. kirki*, these being indeed their nearest allies in each case; but now, on a careful examination of the whole genus, which has been helped by the further material recently collected by Capt. H. G. C. Swayne, and presented to the Museum by Mr. Sclater, I have come to the conclusion not only that these two are each different from the species to which they have been respectively referred, but also that there is a third Somali species, different again from the other two. I have therefore now to describe all three species as new.

It happens most unfortunately that a good deal of the material before me has been collected by sportsmen who have not been trained as professional collectors, and who, in crossing the ranges of the three Somali species, have killed and brought home a number of skins and skulls, but the exact reference of these each to the other is not always quite certain. By care in the selection of type specimens, however, risk of error from this cause is minimized, much as it has added to my difficulties in working out the genus.

The genus is readily divisible into two very distinct groups, of which *M. saltiana* and *M. kirki* are respectively typical; the

¹ *Madoqua*, Ogilb. P. Z. S. 1836, p. 137. Type *M. saltiana*, Blainv.

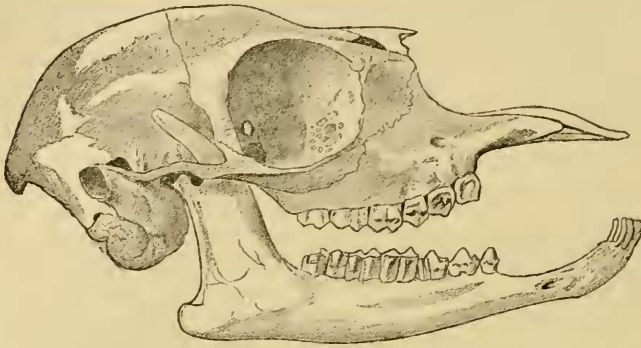
Neotragus, Gray et auct. plurim. (nec H. Sm. in Griff. An. King. iv. p. 269. Type *N. pygmaeus*, L.).

The genus which has hitherto borne the name of *Nanotragus*, Sund. (1846), must therefore now be known by that of *Neotragus*.

² Mr. True, in his paper on the Mammals of Kilima-njaro (P. U. S. Nat. Mus. xv. p. 477, 1892), has suggested that *M. kirki* and *M. damarensis* are the same, and uses for them the latter of these two names, unaccountably as it appears to me, *kirki* having been the first described. In my opinion, however, *M. damarensis* is really distinct from *M. kirki*, being considerably larger than the latter, as may be seen by the synopsis and measurements given below.

characters that divide them are practically those brought out by Dr. Günther in his description of the latter¹, at least so far as the skulls and teeth are concerned.

Fig. 1.



Skull of *Madoqua guentheri*, side view. Reduced.

The first species to be described belongs to the *kirki* section, and of this, which I propose to name in honour of Dr. Günther, who first described the remarkable cranial peculiarities of the members of the section, the Museum possesses the following material:—

- a. Immature skull, ♂. Central Somaliland. E. Lort Phillips. B.M. S6.11.19.2².
- b. Adult skull, ♀. Central Ogaden, 3000 feet, Aug. 1893. Capt. H. G. C. Swayne. 94.2.21.18. *Type*.
- c, d. 2 ad. skins, ♀. Central Ogaden, 3000 feet, Aug. 1893. Capt. H. G. C. Swayne. 94.2.21.16,17.

Taking as the type the skull *b*, which in all probability belongs to one or other of the skins *c*, *d*, the species may be briefly diagnosed as:—

MADOQUA GUENTHERI, sp. n.

Essential characters of *M. kirki*, but the lower, premaxillary part of muzzle much longer and narrower, while the nasals are much shorter. Tip of nasals, and also the front edge of the upper part of the secondary process of the maxillæ, where it meets the nasals, level with the front edge of p.4 instead of p.2. Pre-maxillæ not reaching to nasals. Breadth of muzzle halfway between gnathion and p.2 less than a quarter the distance

¹ P. Z. S. 1880, p. 17.

² The skull mentioned by Sclater, P. Z. S. 1886, p. 504. The skin referred to at the same time, as is clearly shown by its size and other characters, did not really belong, as was supposed, to this skull, but to another, younger one (S6.11.19.3), and is referable to the species described below as *M. phillipsi*.

between these two last-named points, while in *M. kirki* this breadth is about one-third. Teeth rather smaller than in *M. kirki*. $\overline{M. 3}$ with the additional third lobe found in *M. kirki* and *damarensis*, but it is decidedly smaller than in either of these species.

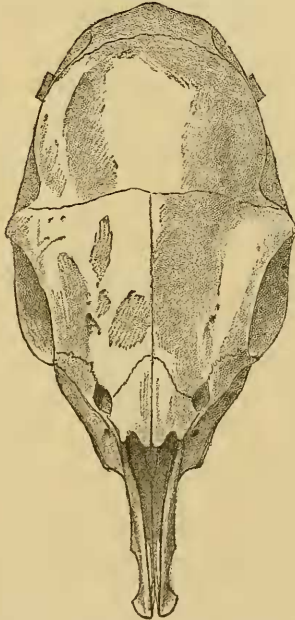
For dimensions of the typical skull see table, p. 326.

Externally, the species, as judged by the skins *c* and *d*, is coloured almost precisely as in *M. kirki*, and the only obvious difference is that the snout is far more elongated and proboscis-like, and fully justifies the remarks on its extraordinary length often made by Somali sportsmen, remarks which, taking them as applied to *M. kirki*, have always appeared to be somewhat exaggerated.

The function of the proboscis is as yet quite unknown, but one might put forward as a suggestion the possibility of its being of service in searching for bulbs under the surface of the soil.

The second species, which I propose to name in honour of Mr. E. Lort Phillips, who was the first to obtain it and to whom the Museum is indebted for so much interesting Somali material, belongs to the *M. saltiana* group, distinguished by the absence of the third lobe on $\overline{M. 3}$ and by its less specialized muzzle.

Fig. 2.



Skull of *Madoqua guentheri*, top view. Reduced.

Of this, which has hitherto been put down as *M. saltiana*, there are before me the following specimens:—

a, b. Adult ♂ & ♀, in spirit. Dobwain, in the Maritime Hills, Proc. Zool. Soc.—1894, No. XXII. 22

Table of Skull-measurements (in millimetres).

Species ...	<i>M. saltiana.</i> 69.10.24.4.	<i>swaynei.</i> 94.2.21.20.	<i>phillipsi.</i> 88.6.20.7.	<i>damarensis.</i> 79.12.28.1.	<i>kirbi.</i> 79.12.18.2.	<i>guentheri.</i> 94.2.21.18.
Sex	♂	♂	♂	♀	♂	♀
Basal length	96	77.5	82.6	—	90.5	97
Greatest breadth	55.2	48.2	51.7	(c.) 56	53.5	51.6
Nasals, length	23.6	15	19	21.7	12.2	17.5
Nasals, combined breadth	20	14.9	16	18.1	14.5	15.5
Interorbital breadth (on frontals).	41.5	35	36.2	41.5 ¹	38	36
Intertemporal breadth	39	36	38.7	42	37.5	40
Breadth of brain-case	40.2	37.4	38.5	44.5	38.5	41.5
Gnathion to junction of nasals and maxillæ (or premaxillæ). }	32	27.5	28	37	35.5	42.3
Gnathion to orbit	53.5	41	46	56.5	51.2	53.5
Gnathion to front of alveolus of p. 2	27.5	21	22.5	30	25	28.2
Length of upper molar series ...	35	31	33	38	35.2	33

¹ Taken so as to be correctly comparable with the corresponding measure in other species; but there is in *M. damarensis* a peculiar notch on each side along the junction between the frontals and maxillæ, so that the true frontal interorbital measure is only 35.7.

40 miles S. of Berbera, Jan. 1888. E. Lort Phillips.

88.6.20.7,8. *a* the *type*.

c. Imm. skin¹, ♂. "Central Somali." E. Lort Phillips.
86.11.19.2.

d. Young skull (probably belonging to *c*). E. Lort Phillips.
86.11.19.3.

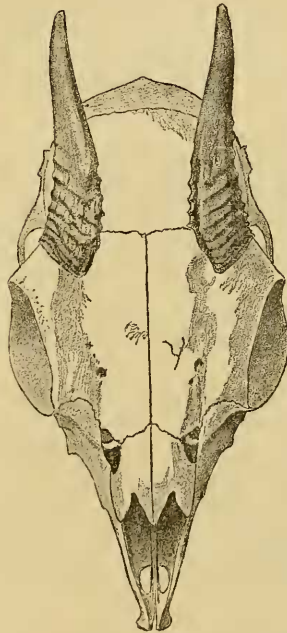
e-i. 2 skins and 3 skulls. Berbera. Capt. H. G. C. Swayne.
93.12.1.8,9; 94.2.21.12,13, & 19.

As compared with Abyssinian examples of *M. saltiana*, the following are the characteristics of

MADOQUA PHILLIPSI, sp. n.

Size decidedly smaller than in *M. saltiana* (see skull-measurements below). Back finely grizzled ash grey; sides, shoulders,

Fig. 3.



Skull of *Madoqua phillipsi*. Reduced.

and limbs bright rufous ("cinnamon," Ridgway), as compared with the faint rufous of the shoulders and limbs of *M. saltiana*. Head-colours and markings apparently as usual.

¹ The skin mentioned by Selater, *l. c.*

Dimensions of the type, an adult male in spirit:—Head and body 470 mm., hind foot to base of hoof 159, ear from notch 59. For skull-measurements see table, p. 326.

Hab. Northern half of Somaliland.

This, the ordinary "Dik-Dik" of Northern Somaliland, seems to be very common throughout its range. Capt. Swayne tells me that during every day's march they are constantly being put up and shot, exactly like the common European hare, the habits of which they closely imitate.

Although undoubtedly very closely allied to the Abyssinian species, its differences, both in size and colour, appear to be so marked and so constant that I no longer feel justified in assigning it to that form. The name of *M. saltiana* should therefore be entirely struck out of the list of the Somali fauna.

Lastly we have to deal with a species which, found, like *M. phillipsi*, near Berbera, is there well-known as distinct both to sportsmen and natives, and has a different local name. I propose to name it after the enthusiastic naturalist and sportsman who first drew my attention to its distinctness, and whose notes on it have been already published in the 'Proceedings.'

MADOQUA SWAYNEI, sp. n.

Colour approximately as in *M. saltiana*; size less than in *M. phillipsi*, and therefore far less than in *M. saltiana*. Colour of back grey with a strong fulvous suffusion ("isabella" of Ridgway seems the nearest, but is not yellowish enough). Limbs rufous, and sides faintly so, but very different from the strong well-defined rufous of *M. phillipsi*.

Of this species the Museum has three skins, brought home by Capt. Swayne from Berbera, and of these No. 94.2.21.15 is selected as the type.

The measurements are as follows:—Head and body (*c.*) 500 mm., hind foot without hoofs 149, length of hoof 22.

Besides the skins, one skull of Capt. Swayne's (94.2.21.20) and another one (85.11.16.3), collected at Gerbatir, N. Somali, by Herr Menges, are referred provisionally to this species, and the measurements of the former given in the table on p. 326.

Capt. Swayne tells me that the native name of *M. swaynei* is "Guyu," of *M. phillipsi* "Gol-ass," and of *M. guentheri* "Gussuli."

The following rough synopsis of the species of *Madoqua* will help to summarize the results arrived at:—

- A. Last lower molar without a third lobe; upper line of premaxillæ slanting, scarcely curved. Proboscis less developed.
 - a. Back yellowish or fulvous grey, sides scarcely more rufous.
 - a¹. Size larger, basal length of skull 95 mm. Abyssinia.
 1. *M. saltiana*, Blainv.
 2. *M. swaynei*, Thos.
 - a². Size smaller, basal length of skull about 78 mm. N. Somali.
 1. *M. saltiana*, Blainv.
 2. *M. swaynei*, Thos.



J. Smit del. et lith.

RHINOCEROS SIMUS, ♂.

Mirtem Bros. imp.

- b. Back grey, sides and shoulders rich rufous or cinnamon ; size intermediate between last two (skull 84 mm.). N. Somali.
3. *M. phillipsi*, Thos.
- B. Last lower molar with a third lobe ; upper line of premaxillæ S-shaped. Proboscis more developed.
- c. Tip of nasals about level with front edge of anterior premolar, about 33 mm. from end of premaxillæ (gnathion).
- c¹. Back of orbit to gnathion about 86 mm. Damaraland.
4. *M. damarensis*, Günth.
- c². Back of orbit to gnathion about 76 mm. S. Somali to Kilima-njaro.
5. *M. kirki*, Günth.
- d. Tip of nasals about level with back of middle premolar and about 42 mm. from gnathion.
- e¹. Plateau of Central Somaliland.
6. *M. guentheri*, Thos.

P.S. (April 13th, 1894).—Since this paper was read Dr. E. Donaldson Smith has presented the British Museum with further examples of the two Northern Somali species—*M. phillipsi* (from Milmil, 1894) and *M. swaynei* (also from Milmil).

3. On the Occurrence of the White or Burchell's Rhinoceros in Mashonaland. By R. T. CORYNDON.

[Received March 30, 1894.]

(Plate XVIII.¹)

This subject cannot but have a melancholy interest, not only to zoologists, but to sportsmen and naturalists all the world over, for it is more than probable that before the close of this century the White Rhinoceros, the largest of all the mammals after the Elephant, will be extinct, and this, too, with but very few preserved specimens in existence to give the natural-history student of the future an idea of its enormous size and peculiar structure.

In the early hunting days in Matabililand, and in the high well-watered country which has since come to be known as Mashonaland, Rhinoceroses of both kinds were comparatively common: the White (*Rhinoceros simus*) was found usually in the open grass-country, the Black (*R. bicornis*) usually in the rugged hill-country. It is now generally recognized that there are in Africa only two varieties

¹ [The figure (Plate XVIII.) is taken from one of the male specimens shot by Mr. Coryndon, which has been excellently mounted for the Tring Museum by Mr. Rowland Ward, F.Z.S., of Piccadilly. It is described ('Land and Water,' April 14, 1894, p. 571) as follows:—

"The specimen stands 6 feet 1½ in. at the withers; length between uprights 12 feet 1 in.; length from lip, along bases of horns, up between ears, and following curves of back to root of tail, 13 feet; to tip of tail 15 feet 8½ in.; girth behind shoulders 10 feet 3½ in.; girth round fore-arm 3 feet 4½ in. The development of the muscle of the fore-arm attracts attention at once. The width of the lip between the greatest depth of the nostrils is just under 12 inches. The anterior horn measures 2 feet 3 in. round the base, and is 1 foot 10½ in. from base to 'tip.'"

Mr. Rothschild asks me to add the following remarks:—"In years gone by, when this species was common throughout the Cape Colony, those found in the south-west are said to have been much paler and whiter in colour than those in the north-east, and may have justified to a certain extent the name of White Rhinoceros."—P. L. S.]

of the Rhinoceros, the black and the white; the old Dutch elephant-hunters always believed in several, and advanced as their reasons the different lengths of the anterior horn, and made their decisions by this standard alone. Both Rhinoceroses are easy to shoot, and it is small wonder that when a long train of carriers has to be fed, or when natives are hunting for a supply of meat to carry back to their kraals, rhinoceroses were shot in preference to buck, wary and difficult to stalk as they are and as a rule more tenacious of life. Furthermore, it is natural that a White Rhinoceros should be shot in preference to a Black, for they generally carry a good deal more fat, are very much larger, and as a rule have larger and more valuable horns.

As time went on both white and native hunters carried on their work until, a few years ago, naturalists and sportsmen woke up to the fact that there were very few of the White Rhinoceros left in the country. This happened at an unfortunate time, for just then Mr. F. C. Selous, whom I consider the only scientific hunter between the Crocodile and the Zambesi Rivers, was engaged by the Chartered Company to guide the Pioneer Expedition up to Mashonaland, and was in consequence unable to afford the time necessary for a trip to the country where they were supposed still to exist. Needless to say, all this time the natives were shooting in the ordinary course and naturally did not understand the view taken in England: had they fully appreciated it, however, I do not suppose it would have made any material difference to them.

Thus it was that, thanks to their greater size and to the fact that they carried more fat and finer horns than the Black, the Square-mouthed Rhinoceros has gradually disappeared, and was, until we shot those obtained in 1892, considered by zoologists to be very nearly, if not quite, extinct.

How these names—the Black and White—originated, I do not know, and I have heard of no satisfactory theory.

No serious assertion has, I believe, ever been put forward that the Square-mouthed Rhinoceros occurs north of the Zambesi; certainly no horns in any way resembling the massive growths of *R. simus* have been brought from there. Count Teleki claims to have shot a White Rhinoceros in N.E. Africa, not far, I think, from Kenia. It is interesting to see that he bases his claim upon the fact that this rhinoceros was of a distinctly lighter colour than the ordinary varieties; but, as a matter of fact, there is no difference between the colours of the two African species. If anything, I fancy the so-called White Rhinoceros is the darker-coloured animal of the two.

I have lately heard of two events which are certainly interesting, but which, I think, bear no real significance. About 12 years ago Colonel Coke made a short shooting-expedition into Somaliland; he started, I believe, from Witu, and while hunting some distance inland he purchased from a caravan several rhinoceros horns. One of these horns, Dr. Günther tells me, it is more than probable is a White Rhinoceros horn. Should this surmise prove to be correct,

it is difficult to conjecture how this solitary horn got into Central Africa. The second instance is this: I hear that information from Lisbon has been received in London to the effect that the White Rhinoceros has been seen upon the borders of Angola, on the West Coast of Africa. Now it is possible, I suppose, that continued persecution may have driven this animal from the north-eastern part of Mashonaland to the upper grounds—still absolutely undisturbed—of the Zambesi; though it is extremely improbable that it would go so far as Angola. Besides, the White Rhinoceros is so entirely connected with the country south of the Zambesi that it is more than possible that the traveller who brought this information may have been mistaken.

The main points of difference between the two African Rhinoceroses are the shape of the mouth and the manner of feeding. *R. bicornis* has a prehensile upper lip and a much smaller head altogether than *R. simus*; he feeds entirely upon leaves and twigs and prefers a rough, bushy, inhospitable country; he is wary and shy, quick to anger and exceedingly obstinate, inquisitive, and suspicious. *R. simus* has a disproportionately large head with a great jaw which is cut off quite square in front, and the great rubber-like lips are suited for the grass upon which he feeds entirely, though in the autumn and winter, when vast stretches of country have been burnt away, it is a puzzle how he manages to get enough nutriment to sustain his great bulk. He carries his head very low, and has long ears slightly tipped with curly black hair; he is not so inquisitive or suspicious as his black brother, and is slightly more sluggish in his movements, though upon occasion he can cover the ground with unexpected speed. Another curious fact is that the calf of *R. simus* always runs in front of the cow, while the calf of *R. bicornis* invariably follows its mother: this habit never varies.

Rhinoceroses drink every day—or rather every night, and as a rule do not go down to the water till after midnight. When the sun gets very warm they generally enjoy a siesta, sometimes in the bush and sometimes out in the glaring, quivering heat; and though they will occasionally lie in thick bush they do not make a point of choosing the deepest shade. When fairly asleep they do not waken easily, and they may then be readily shot or photographed.

I am convinced, along with Mr. Selous, that the temper of the rhinoceros has been put down very generally as much worse than it really is. One strong proof of this is that a native hunter will seldom lose the opportunity of a shot at a rhinoceros, whereas he will very rarely take advantage of any chance he may get at a lion, elephant, or buffalo. When rudely awakened from a comfortable doze by such a sudden shock as a 10-bore bullet most probably produces, it is not surprising that a rhinoceros should feel annoyed or that he should express such annoyance by a charge; but I cannot believe that the majority of the "vicious attacks" sustained—by their own account—by hunters were intended as such by the somewhat slow-witted animal.

I will now describe a curious habit of *R. simus*; it is in the manner of dropping its dung. *R. bicornis*, after doing this, proceeds to stamp upon the dung and to tear and dig up the ground in the immediate vicinity, so that there is absolutely no chance of any one missing the place where a *R. bicornis* has spent the day. *R. simus*, however, leaves his dung alone and does not trample and scatter it about; moreover, he is conservative in these matters; he always drops his dung in one place until he has raised a huge heap, then he starts the same operation in another place, and so on.

For this reason it is impossible to confound the species when following spoor, in addition to which the footprints of *R. simus* are much larger than those of *R. bicornis*, and one observes also the marks that each leaves upon the twigs or the grass they feed upon.

I think the longest horn of *R. simus* known measures $56\frac{1}{2}$ inches, and I believe specimens of the horns of *R. bicornis* are in existence which measure 40 inches. It goes, of course, without saying that all the long-horned examples of *R. simus* have been shot out of the country years ago. Should, in the future, another specimen be shot and preserved, I fancy the hunter will not cavil at the length—or rather the shortness—of the horn it may carry.

Until 1892, the last White Rhinoceros shot was, I believe, in 1886. John Engelbrecht and another Dutchman then killed ten of them, and five more were shot in the same season by native hunters from Matabililand.

It is a curious fact that under the skin of the two animals which I shot I found six native bullets, which the Rhinoceroses must have carried about with them for years; two of these bullets were of hammered iron and four were of lead. This remarkable fact is decidedly in favour of my argument that it is impossible to *preserve* the very few remaining specimens, as the natives of course do not look at the matter from the same point of view as savants at home; they want meat, and when they shoot or trap an animal, which is luckily seldom, they do not preserve the skin.

If the Rhinoceroses are not shot by white men they will most assuredly be shot by natives. In the former case the skeletons and hides will be set up for the public benefit in our museums; in the latter—well, a few jackals and vultures, and some small kraal hidden away in the bush in the almost unexplored flats in Africa, will alone benefit—and at a cost which I fancy Europeans do not as yet sufficiently appreciate. As time goes on zoologists will the more regret that the largest of land mammals after the Elephant has become extinct—and this, too, although almost unrepresented in all the splendid museums in Europe and America.

I will now give a short account of the specimens of the White Rhinoceros that I have lately shot.

About the middle of 1892 I was on the Zambesi, and after spending some time with the Portuguese, I proceeded to return to Salisbury in Mashonaland. On the way we found three White Rhinoceroses and shot the calf; the two old ones, though badly wounded, managed to escape. Next morning my companion,

Mr. Arthur Eyre, succeeded in shooting an old cow ; she had a small calf with her, and we captured it with the intention of bringing it to England. In spite of our greatest care, however, it died on the ninth day. I wrote an account of this to the 'Field,' and received subsequently a commission from a great English collector to shoot a specimen for him. In the first few days of June 1893 I started alone from Salisbury and, by the greatest of good luck, found some spoor in North-east Mashonaland before the end of July. I then formed a permanent camp, and began to work up and trace the spoor. For five days from sunrise till dark I patrolled and quartered every yard of country for a good number of miles, and on the sixth day I saw—though so far off that they appeared like dark specks—two of the huge brutes I was searching for. The first thing to do of course was to get below the wind, as when they were first sighted the wind blew directly from me to them. In an hour's time I was crawling towards them through the fringe of bush that lay about 150 to 170 yards below the open position they had chosen for their midday siesta. I thought they might give me some trouble, so I took my coloured boy with me—he could shoot rather well and carried a single 12-bore rifle. As I crawled on my stomach towards them with the greatest possible care, I saw one of them had become suspicious and had got on to his feet, evidently much disturbed. When this happened I flattened myself lower if possible into the sharp grass stubble and black ash—this latter was the result of a devastating grass fire which had occurred a few weeks before. It seemed hours before this very painful crawl brought me to the small tuft of dry grass I was making for. After waiting for some time I was relieved to see the other brute stand up ; I whispered a few words to the boy, and then kneeling right up quickly we lifted the rifles. The larger bull stood on the left and almost facing me, the other stood broadside on ; I did not wish to break any great bones, so I did not fire at the point of the shoulder—which would have been the usual shot under the circumstances—but put the bullet from the 10-bore "Paradox" between the first two ribs and into the lung : as the huge brute spun round, I put the second shot behind the ribs ; it travelled forwards and also, I found afterwards, reached the lungs. The boy fired his rifle almost simultaneously with my first shot, and as the animals went off in opposite directions we jumped up and followed them at our best pace. For over a mile the old bull went like a steam-engine ; he gradually, however, settled down, and I came up and gave him two more bullets from behind : this helped him on again, but not for more than half a mile, when he slackened again. I soon ran up to him and found him beginning to stagger, for all this time he had been throwing blood by the gallon from his nostrils. One more shot finished him, and as he sank down with a kind of sob the buffalo-birds (*Buphaya*) left him and with shrill notes of alarm they flew up and, circling for a few minutes over us, disappeared in the direction that the other rhinoceros had taken. I was completely exhausted by the severe run, and taking out my

pipe I sat down for a short rest upon the huge grey head. The second bull succumbed about half a mile from where I had first fired. It was now well on in the afternoon, and my "skerm" was about six miles away; so, leaving the animals where they were, I went to the camp, packed up my goods, and came back again. It was then close to sunset, and I had only time to take two quick shots with the camera and make a cut in the stomach and bush the carcass up for the night. I then went to the second bull, cut him open, bushed him up, and then in the pitch darkness proceeded to make a large skerm, for it was to be permanent for several days at any rate. Next morning the carcasses had swelled up considerably, but I managed to take a few measurements and make some sketches before skinning them. For eleven days I stayed at that skerm, cleaning the bones, drying the skins, and watching the boys, for they had an annoying habit of throwing the smaller bones away; it may be imagined that, with the quantity of small scraps of meat lying about in the hot sun, in a few days the place had grown—well, unpleasant!

I stayed about that country a few days longer, then brought the specimens into Salisbury—not without a very considerable amount of trouble. A few days after that I left Salisbury with the troops for Matabililand, served through the whole of the war, and then in January I came home. The Rhinoceroses preceded me by a few weeks. One of them will be set up in the Natural History Museum at South Kensington; of the other, the skeleton goes to the Cambridge University Museum, and the skin to the Hon. Walter Rothschild's Museum at Tring.

4. List of Butterflies collected by Captain J. W. Pringle, R.E., on the March from Teita to Uganda, in British East Africa. By EMILY MARY SHARPE¹.

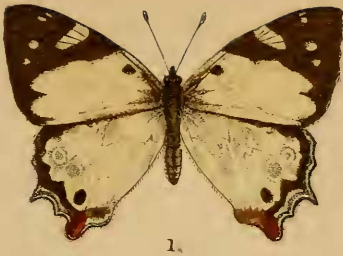
[Received March 20, 1894.]

(Plate XIX.)

The collection of Butterflies described in the present paper was made by Captain Pringle, R.E., during his survey for the projected railway to Uganda on behalf of the Government, under the auspices of the Imperial British East-African Company. The care with which the elevations have been recorded by him renders the collection of especial value to the student of the geographical distribution of Lepidoptera, and it is much to be regretted that such an accurate observer as Captain Pringle was not enabled to make a longer stay in East Africa.

In this communication I have referred especially to Mr. Kirby's 'Catalogue of Diurnal Lepidoptera,' to Dr. Roland Trimen's work on South-African Butterflies, and to a paper by Mr. Hampson

¹ Communicated by Dr. R. BOWDLER SHARPE, F.Z.S.



1.

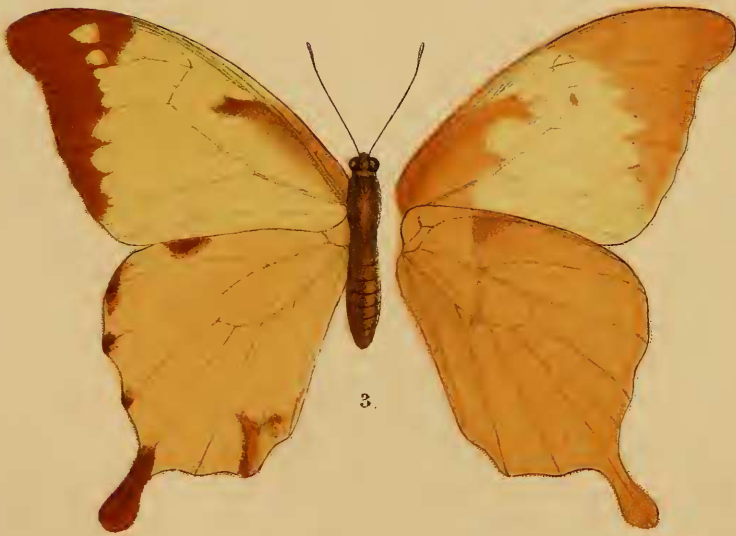


2.

2a



2b



3.



4.



5.

entitled "Lepidoptera from the Sabaki River," Ann. Nat. Hist. (6) vii. 1891.

I am much indebted to Dr. A. G. Butler for his kind help in identifying the more obscure species mentioned in the present paper.

Family DANAIDÆ.

1. LIMNAS KLUGII.

Limnas klugii, Butler, P. Z. S. 1885, p. 758; Hampson, Ann. Nat. Hist. (6) vii. p. 179 (1891, Sabaki River).

- a. Nzoi, 3500 feet, Feb. 1-15, 1893.
- b. Teita, 3500 feet, to Voi River, 2100 feet, Jan. 1892.
- c. Teita to Ndara Hill, 3300 feet, Feb. 3, 1892.
- d. Kibwezi, 3000 feet, Feb. 4-6, 1892.
- e. March from Mbololo in Ndi to Tsavo, 2300 to 1650 feet, Jan. 9-11, 1892.

2. MELINDA FORMOSA.

Danais formosa, Godman, P. Z. S. 1880, p. 183, pl. xix. fig. 1 (Gnuru Hills, E. Africa).

Melinda formosa, Moore, P. Z. S. 1883, p. 229.

- a. Kikuyu to Victoria Nyanza *viâ* Sotik, May 4, 1892.

3. AMAURIS ECHERIA.

Amauris echeria (Stoll); Kirby, Syn. Cat. Diurn. Lepid. p. 8 (1871); Trimen, S. Afr. Butt. i. p. 57 (1887).

Nebroda echeria (Stoll); Moore, P. Z. S. 1883, p. 228.

- a-c. Teita to Ndara Hill, 3300 feet, Feb. 3, 1892.
- d. Teita, 3500, to Voi River, 2100 feet, Jan. 5-6, 1892.

Family SATYRIDÆ.

4. MELANITIS LEDA.

Melanitis leda (Linn.); Kirby, op. cit. p. 43 (1871); Trimen, op. cit. i. p. 112 (1887).

Melanitis solandra (Fabr.); Butler, Cat. Lepid. Satyr. p. 3 (1868).

Melanitis bankia (Fabr.); Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

- a. Voi River, 1600 feet, Jan. 20, 1892.

5. MONOTRICTIS SAFITZA.

Mycalasis safitza, Hewits.; Kirby, op. cit. p. 87 (1871); Butler, Cat. Satyr. p. 128 (1868); Trimen, op. cit. i. p. 105 (1887).

Mycalasis (Monotrichtis) safitza, Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

- a. Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.
- b-d. Teita to Ndara Hill, 3300 feet, Feb. 3, 1892.

6. MYCALESIS PERSPICUA.

Mycalesis perspicua, Trim. ; Kirby, op. cit. App. p. 707 (1877) ; Trimen, op. cit. i. p. 107 (1887).

Samanta perspicua, Butl. P. Z. S. 1888, p. 59 (Tobbo).

a, b. Nzoi, 3500 feet, Feb. 1-15, 1892.

c. Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 12, 1891.

7. MYCALESIS SOCOTRANA.

Calysisme socotrana, Butl. P. Z. S. 1881, p. 175, pl. xvii. fig. 7 (Socotra).

a. Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

8. YPITHIMA DOLETA.

Mycalesis doleta, Kirby, Proc. Roy. Dubl. Soc. (2) ii. p. 336 (1880) ; Godm. & Salv. P. Z. S. 1884, p. 220 (Lower Niger).

a. March from Mreru in Ndi to Tsavo, 2300 to 1650 feet, Jan. 9-11, 1892.

b. Voi River, 1600 feet, Jan. 20, 1892.

9. YPITHIMA ALBIDA. (Plate XIX. fig. 4.)

Ypthima albida, Butl. P. Z. S. 1888, p. 59 (Fóda).

a. Teita District.

10. NEOCENYRA DUPLEX.

Neocenyra duplex, Butl. P. Z. S. 1885, p. 758 (Somaliland).

a. Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

b. Mreru in Ndi to Tsavo, 2300 to 1650 feet, Jan. 9-11, 1892.

c. Nzoi, 3500 feet, Feb. 1-15, 1892.

RHAPHICEROPSIS, gen. nov.

Similar to the genus *Neope*, but easily distinguished by the spatulate club to the antennæ. The type is

11. RHAPHICEROPSIS PRINGLEI, sp. n. (Plate XIX. figs. 1, 2.)

Colour very pale primrose-yellow with black markings. Fore wing: basal half pale yellow, the apical half black as well as the hind margin beyond the posterior angle. There are three small spots of yellow, one in each of the second and third median nervules, and the third above the subcostal nervure. From the costal margin is an oblique mark of yellow reaching to the apical end of the discoidal cell; base of wing blackish; near the base is a small black spot.

Hind wing almost entirely primrose-yellow, the mottlings of the under surface visible; a black line along the costa and hind margin to the anal angle; on the first median nervule is a small maroon spot; above the hind marginal border a black spot between the first and second median nervule, the marginal line

being divided by a thread of primrose-yellow from the anal angle to the third median nervule.

Expanse 1.7 inch.

a, b. Kikuyu to Victoria Nyanza *viâ* Sotik, May 5, 1892.

Family ACRÆIDÆ.

12. ACRÆA REGALIS.

Acræa regalis, Oberthür, Études d'Ent. p. 20, pl. ii. fig. 20 (1893).

a. Maungu Hill, 3100 feet, Dec. 30, 1891.

b. Kibwezi, Feb. 5, 1892.

13. ACRÆA CIRCEIS.

Acræa circeis (Drury); Kirby, op. cit. p. 132 (1871).

a. Usoga to Uganda, June 1892.

14. ACRÆA BRÆSIA.

Acræa bræsia, Godm. P. Z. S. 1885, p. 538 (Kilimanjaro); Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a, b. Teita to Voi River, 1600 feet, Jan. 20, 1892.

c. Kibwezi, Feb. 5, 1892.

15. ACRÆA NATALICA.

Acræa natalica, Boisd.; Kirby, op. cit. p. 132 (1871); Trimen, op. cit. i. p. 155 (1887); Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a, b. Teita to Ndara Hill, 3300 feet, Feb. 3, 1890.

c. March from Maungu Hill to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

16. ACRÆA BUXTONI.

Acræa buxtoni, Butl.; Trimen, op. cit. i. p. 170 (1887); id. P. Z. S. 1891, p. 74 (South-western Africa).

a. Nzoi, 3500 feet, Feb. 15, 1892.

17. ACRÆA VINIDIA.

Acræa vinidia, Hew.; Kirby, op. cit. App. p. 720 (1877).

a-h. Uganda.

18. ACRÆA CABIRA.

Acræa cabira, Hopff.; Kirby, op. cit. p. 132 (1871); Trimen, op. cit. i. p. 173 (1887).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

b. Nzoi, 3500 feet, Feb. 15, 1892.

19. *ACRÆA PHARSALUS*.

Acræa pharsalus, Ward ; Kirby, op. cit. App. p. 720 (1877).

a. Uganda.

20. *ACRÆA PERENNA*.

Acræa perenna, Doubl. & Hewits. ; Kirby, op. cit. p. 135 (1871).
Gnesia perenna, Butl. P. Z. S. 1888, p. 66 (Kangasi).

a. Uganda.

21. *ACRÆA LYCIA*.

Acræa lycia (Fabr.) ; Kirby, op. cit. p. 131 (1871).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

22. *ACRÆA OREAS*.

Acræa oreas, E. M. Sharpe, P. Z. S. 1891, p. 193, pl. xvii. fig. 5 (Mt. Elgon).

a-c. March from Kikuyu to Victoria Nyanza *via* Sotik, May 4 1892.

23. *PLANEMA JOHNSTONI*.

Acræa johnstoni, Godm. P. Z. S. 1885, p. 537 (Kilimanjaro) ;
Butler, P. Z. S. 1888, p. 91.

Acræa proteina, Oberthür, Études d'Ent. p. 25, pl. i. fig. 4 (1893).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

24. *PLANEMA FULVESCENS*.

Acræa proteina fulvescens, Oberthür, Études d'Ent. p. 26, pl. ii. fig. 21 (1893).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

This specimen does not entirely agree with M. Oberthür's figure, having less black on both wings. It is probably a variation of *P. johnstoni*, Godm., with which *P. proteina* of Oberthür is undoubtedly identical.

25. *PLANEMA MONTANA*.

Planema montana, Butl. P. Z. S. 1888, p. 91 (Kilimanjaro).

a. Ndara Hill, Teita, 3300 feet, Jan. 3, 1892.

b. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

26. *ALÆNA JOHANNÆ*. (Plate XIX. fig 5.)

Alæna johannæ, E. M. Sharpe, Ann. Nat. Hist. (6) v. p. 442 (1890).

a. Tsavo River, 1500 feet.

Family NYMPHALIDÆ.

27. HYPANARTIA DELIUS.

Hypanartia delius (Drury); Kirby, op. cit. p. 181 (1871).

a, b. Teita District.

28. JUNONIA CLELIA.

Junonia clelia (Cram.); Kirby, op. cit. p. 187 (1871); Trimen, op. cit. i. p. 214 (1887).

Junonia cenone (Linn.); Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a. March from Maungu to Maragoyakanga, 3100 feet to 2400 feet, Dec. 30, 1891.

b. Tsavo River, 1500 feet.

c. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

d. Kibwezi, 3000 feet, Feb. 6, 1892.

e. Nzoi, 3500 feet, Feb. 15, 1892.

29. JUNONIA CEBRENE.

Junonia cebrene, Trimen, op. cit. i. p. 210 (1887).

Junonia crebrene, Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a. Tsavo River, 1500 feet.

b, c. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

d. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

30. JUNONIA WESTERMANNI.

Junonia westermanni, Westw.; Kirby, op. cit. App. p. 734 (1877).

a. Teita District.

31. PRECIS TEREÆ.

Precis tereæ (Drury); Kirby, op. cit. p. 189 (1871).

a, b. Teita District.

32. PRECIS NATALICA.

Precis natalica, Feld.; Kirby, op. cit. p. 190 (1871); Trimen, op. cit. i. p. 238 (1887).

Junonia natalica, Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

b. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

c. March from Voi River to Ndi, 2300 feet, Jan. 8, 1892.

d. Ndara Hill to Teita, 3300 feet, Feb. 3, 1892.

e. Nzoi, 3500 feet, Feb. 16, 1892.

33. *PRECIS LIMNORIA.*

Precis limnoria (Klug); Kirby, op. cit. p. 190 (1871); Butl. P. Z. S. 1885, p. 759 (Somali-land).

a-c. March from Maungu Hill to Maragoyakaunga, 3100 to 2400 feet.

d. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

34. *PRECIS SINUATA.*

Precis sinuata, Plötz; E. M. Sharpe, P. Z. S. 1893, p. 555.

a, b. Kibwezi, 3000 feet, Feb. 6, 1892.

35. *PRECIS CUAMA.*

Precis cuama (Hewits.); Kirby, op. cit. p. 191 (1871).

a, b. Tsavo River, 1500 feet.

c-e. March from Maungu Hill to Maragoyakaunga, 3100 to 2400 feet, Dec. 30, 1891.

36. *PRECIS SESAMUS.*

Precis sesamus, Trimen, op. cit. i. p. 231 (1887).

a. March from Kikuyu to Victoria Nyanza *viâ* Sotik, May 4, 1892.

37. *PRECIS CLOANTHA.*

Precis cloantha (Cram.); Kirby, op. cit. p. 191 (1871); Trimen, op. cit. i. p. 222 (1887).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

b. March from Kikuyu to the Victoria Nyanza *viâ* Mau and Sotik, 8000 feet, May 4, 1892.

38. *ERGOLIS ENOTREA.*

Ergolis enotrea (Cram.); Kirby, op. cit. p. 195 (1871).

a. Teita District.

39. *EURYTELA HIARBAS.*

Eurytela hiarbas (Drury); Kirby, op. cit. p. 195 (1871); Trimen, op. cit. i. p. 258 (1887).

a. March from Kikuyu to the Victoria Nyanza *viâ* Mau and Sotik, 8000 feet, May 4, 1892.

40. *EURYTELA DRYOPE.*

Eurytela dryope (Cram.); Kirby, op. cit. p. 194 (1871); Trimen, op. cit. i. p. 261 (1887); Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a-c. Voi River, Teita, 1600 feet, Jan. 20, 1892.

41. *EURYTELA OPHIONE.*

Eurytela ophione (Cram.); Kirby, op. cit. p. 195 (1871).

a-c. Voi River, Teita, 1600 feet, Jan. 20, 1892.

42. *DIADEMA MISIPPUS.*

Hypolimnas misippus (Linn.); Kirby, op. cit. p. 225 (1871).

Diadema misippus, Trimen, op. cit. i. p. 277 (1887); Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

b. Kibwezi, 3000 feet, Feb. 6, 1892.

c, d. Nzoi, 3500 feet, Feb. 15, 1892.

43. *NEPTIS AGATHA.*

Neptis agatha (Cram.); Kirby, op. cit. p. 242 (1871); Trimen, op. cit. i. p. 270 (1887).

a-c. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

44. *HAMANUMIDA DÆDALUS.*

Hamanumida dædalus (Fabr.); Kirby, op. cit. p. 249 (1871); Trimen, op. cit. i. p. 309 (1887); Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a. Voi River, 1600 feet, Jan. 20, 1892.

45. *SALAMIS ANACARDII.*

Salamis anacardii (Linn.); Kirby, op. cit. p. 192 (1871); Trimen, op. cit. i. p. 244 (1887).

a. Kibwezi, Feb. 6, 1892.

b. Nzoi, 3500 feet, Feb. 15, 1892.

46. *SALAMIS AGLATONICE.*

Salamis anacardii, Godt., pt.; Kirby, op. cit. p. 192 (1871); Trimen, op. cit. i. p. 244 (1887).

a, b. Tsavo River, 1500 feet.

c, d. Voi River, 1600 feet, Jan. 20, 1892.

47. *PHILOGNOMA VARANES.*

Palla varanes (Cram.); Kirby, op. cit. p. 274 (1871); Hampson, op. cit. (6) vii. p. 181 (1891, Sabaki River).

a. Usoga, 4000 feet.

b. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

c, d. Ndara Hill, Teita, 3500 feet, Feb. 3, 1892.

48. *PHILOGNOMA USSHERI.*

Palla ussheri (Butl.); Kirby, op. cit. p. 273 (1871).

a. Uganda, 4000 feet.

49. *CHARAXES TIBIDATES.*

Nymphalis tibidates (Cram.); Kirby, op. cit. p. 269 (1871).

a. March from Usoga to Uganda, 4000 feet, June 1892.

50. *HYPANIS ILITHYIA*.

Hypanis ilithyia (Drury); Kirby, op. cit. p. 196 (1871); Trimen, op. cit. i. p. 264 (1887).

Byblia ilithyia, Hampson, op. cit. (6) vii. p. 180 (1891, Sabaki River).

a-c. March from Maungu to Maragoyakanga, Jan. 1, 1892.

d, e. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

f. Kibwezi, 3000 feet, Feb. 6, 1892.

51. *CYRESTIS CAMILLUS*.

Cyrestis camillus (Fabr.); Kirby, op. cit. p. 220 (1871).

a-d. Uganda, 4000 feet.

52. *EURYPHENE CALABARENSIS*.

Eurypheue calabarensis, Feld.; Kirby, op. cit. p. 246 (1871).

a. Uganda, 4000 feet.

Family *ERYCINIDÆ*.53. *ABISARA GERONTES*.

Abisara gerontes (Fabr.); Butler, P. Z. S. 1888, p. 67.

a. Uganda, 4000 feet, June 1892.

Family *LYCÆNIDÆ*.54. *LACHNOCNEMA BIBULUS*.

Lucia bibulus (Fabr.); Kirby, op. cit. p. 337 (1871); Trimen, op. cit. ii. p. 235 (1887).

a. Ndara Hill, 3300 feet, Feb. 3, 1892.

55. *ZERITIS PERION*.

Axiocerses perion (Cram.); Kirby, op. cit. p. 338 (1871).

Chrysorychia harpax, Fabr., pt.; Trimen, op. cit. ii. p. 162 (1887).

a. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

56. *LYCÆNA JUBA*.

Cupido juba (Fabr.); Kirby, op. cit. p. 349 (1871).

a. March from Kikuyu, 6500 feet, to Victoria Nyanza via Sotik, May 4, 1892.

b, c. Uganda, 4000 feet.

57. *LYCÆNA MORIQUA*.

Cupido moriqua (Wallgr.); Kirby, op. cit. p. 351 (1871); Trimen, op. cit. ii. p. 75 (1887).

a-d. Teita, Jan. 1892.

e. March from Mreru in Ndi to Tsavo, 2300 to 1650 feet, Jan. 11, 1892.

58. *LYCÆNA BÆTICA.*

Cupido bœticus (Linn.); Kirby, op. cit. p. 354 (1871).

Lycæna bœtica, Trimen, op. cit. ii. p. 58 (1887).

a. March from Kikuyu to Victoria Nyanza *viâ* Mau and Sotik, 7000 to 8000 feet, May 4, 1892.

59. *LYCÆNA GAIKA.*

Cupido gaika, Trim. ; Kirby, op. cit. p. 362 (1871).

Lycæna gaika, Trimen, op. cit. ii. p. 50 (1887).

a. Nzoi, 3500 feet, Jan. 15, 1892.

b. Voi River, 1600 feet, Jan. 20, 1892.

c. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

d. Uganda, 4000 feet.

60. *LYCÆNA PULCHRA.*

Lycæna pulchra, Murray, Trans. Ent. Soc. 1874, p. 524, pl. 10. figs. 7, 8.

Tarucus pulcher, Butler, P. Z. S. 1888, p. 68.

a-c. March from Mreru in Ndi to Tsavo, 2300 to 1650 feet, Jan. 11, 1892.

f-h. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

i-m. Kibwezi, 3000 feet, Feb. 6, 1892.

n. Nzoi, 3500 feet, Feb. 16, 1892.

61. *LYCÆNESTHES LIGURES.*

Lycænesthes ligures, Hewits. ; Kirby, op. cit. App. p. 783 (1877).

a. Uganda, 4000 feet.

62. *LYCÆNESTHES LARYDAS.*

Lycænesthes larydas (Cram.); Kirby, op. cit. App. p. 783 (1877); Trimen, op. cit. ii. p. 96 (1887).

a. Uganda, 4000 feet.

63. *TATURA PACHALICA.*

Hypolycæna (Tatura) pachalica, Butl. P. Z. S. 1888, p. 69 (Wadelai).

a. Tsavo, 1500 feet.

b. March from Mreru in Ndi, 2300 to 1650 feet, Jan. 11, 1892.

c, d. Uganda, 4000 feet, June 1892.

64. *CASTALIUS MARGARITACEUS.*

Castalius margaritaceus, E. M. Sharpe, P. Z. S. 1891, p. 636, pl. xlvi. fig. 3.

a. March from Kikuyu to Victoria Nyanza *viâ* Mau and Sotik, 7000 to 8000 feet, May 4, 1892.

65. *CASTALIUS MELÆNA.*

Lycæna melæna, Trimen, op. cit. ii. p. 82 (1887).

a. Voi River, 1600 feet, Jan. 20, 1892.

Family PIERIDÆ.

66. NYCHITONA ALCESTA.

Pontia alcesta (Cram.); Kirby, op. cit. p. 439 (1871); Trimen, op. cit. iii. p. 8 (1889).

a. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

67. TERIAS BRIGITTA.

Eurema brigitta (Cram.); Kirby, op. cit. p. 447 (1871).

Terias brigitta, Trimen, op. cit. iii. p. 14 (1889).

a. March from Mreru in Ndi to Tsavo, 2300 to 1650 feet, Jan. 9, 1892.

68. TERIAS ZOË.

Eurema brigitta, var. *d*, Kirby, op. cit. p. 448 (1871).

Terias zoë, Hopff.; Trimen, op. cit. iii. p. 16 (1889).

a, b. Maungu Hill, 3600 feet, Dec. 30, 1892.

c. March from Mreru in Ndi, 2300 feet, to Tsavo, 1600 feet, Jan. 9, 1892.

d, e. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

f, g. Nzoï, 3500 feet, Jan. 15, 1892.

69. TERIAS ORIENTIS.

Terias orientis, Butler, P. Z. S. 1888, p. 71.

a. Teita District, 3000 feet.

70. PINACOPTERYX PIGEÆ.

Pieris pigea, Boisd.; Kirby, op. cit. p. 455 (1871); Trimen, op. cit. iii. p. 46 (1889).

a. Voi River, 1600 feet, Jan. 20, 1892.

b. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

71. PINACOPTERYX SIMANA.

Pieris simana, Hopff.; Trimen, op. cit. iii. p. 50 (1889).

Pieris charina, Boisd., pt.; Kirby, op. cit. p. 456 (1871).

a, b. Voi River, 1600 feet, Jan. 20, 1892.

72. PINACOPTERYX SPILLERI.

Pieris spilleri, Staudinger; Trimen, op. cit. iii. p. 54 (1889).

a, b. Voi River, 1600 feet, Jan. 20, 1892.

73. PINACOPTERYX NIGROPUNCTATA.

Pinacopteryx nigropunctata, E. M. Sharpe, Ann. Nat. Hist. (6) v. p. 336 (1890); Waterh. Aid, pl. 189. fig. 4 (1882-90).

a, b. March from Teita to Voi River, 3500 to 2100 feet, Jan. 6, 1892.

74. BELENOIS SEVERINA.

Pieris severina (Cram.); Kirby, op. cit. p. 457 (1871); Trimen, op. cit. iii. p. 68 (1889).

Belenois severina, Hampson, op. cit. (6) vii. p. 182 (1891, Sabaki River).

a-c. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

d-f. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

g. March from Voi River to Ndi, 1925 to 2300 feet, Jan. 8, 1892.

h-k. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

75. BELENOIS AGRIPPINA.

Pieris agrippina, Feld.; Kirby, op. cit. p. 457 (1871).

Pieris severina (Cram., pt.); Trimen, op. cit. iii. p. 68 (1889).

a-d. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

e-h. March from Voi River to Ndi, 1925 to 2300 feet, Jan. 8, 1892.

i-l. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

76. BELENOIS BOGUENSIS.

Pieris boguensis, Feld.; Kirby, op. cit. p. 457 (1871).

Pieris severina (Cram., pt.); Trimen, op. cit. iii. p. 68 (1889).

a. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1890.

b. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

c. Ndara Hill, Teita, 3300 feet, Jan. 3, 1892.

77. BELENOIS ZOCHALIA.

Pieris zochalia, Boisd.; Kirby, op. cit. p. 457 (1871); Trimen, op. cit. iii. p. 57 (1889).

a. Ndara Hill, Teita, Feb. 3, 1892.

b, c. March from Kikuyu to Victoria Nyanza *viâ* Sotik, May 1892.

78. BELENOIS INFIDA.

Belenois infida, Butler, P. Z. S. 1888, p. 78 (Wadelai).

a. March from Maungu to Maragoyakanga, Jan. 1, 1892.

b. Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

c-k. March from Mreru in Ndi to Tsavo, 3300 to 1680 feet, Jan. 11, 1892.

l. Kibwezi, Feb. 5, 1892.

m. March from Kikuyu to Victoria Nyanza *viâ* Sotik, May 1892.

79. BELENOIS GIDICA.

Pieris gidica, Godt. ; Kirby, op. cit. p. 457 (1871) ; Trimen, op. cit. iii. p. 64 (1889).

Belinois gidica, Hampson, op. cit. (6) vii. p. 182 (1891, Sabaki River).

a, b. Uganda, 4000 feet.

80. BELENOIS THYSA.

Pieris thysa, Hopff. ; Trimen, op. cit. iii. p. 44 (1889).

a-d. Kibwezi, 3000 feet, Feb. 6, 1892.

81. MYLOTHRIS AGATHINA.

Tachyris agathina (Cram.) ; Kirby, op. cit. p. 464 (1871).

Mylothris agathina, Trimen, op. cit. iii. p. 30 (1889).

a-b. Kibwezi, 3000 feet, Feb. 6, 1892.

82. MYLOTHRIS RHODOPE.

Tachyris rhodope (Fabr.) ; Kirby, op. cit. p. 463 (1871).

a-d. Teita, 2000 to 3000 feet.

83. MYLOTHRIS NARCISSUS.

Mylothris narcissus, Butler, P. Z. S. 1888, p. 95 (Kilimanjaro).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 5, 1892.

b. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

84. MYLOTHRIS JACKSONI.

Mylothris jacksoni, E. M. Sharpe, P. Z. S. 1891, p. 190, pl. xvi. fig. 3.

a, b. March from Kikuyu to Victoria Nyanza *via* Sotik, May 4, 1892.

85. ERONIA DILATATA.

Eronia dilatata, Butler, P. Z. S. 1888, p. 96.

a-g. Maungu Hill, 3900 feet, Dec. 30, 1891.

h. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

i. Ndara Hill, Teita, 3300 feet, Feb. 8, 1892.

86. ERONIA LEDA.

Eronia leda (Boisd.), Kirby, op. cit. p. 480 (1871) ; Trimen, op. cit. iii. p. 174 (1889).

a. Maungu Hill, Dec. 31, 1891.

b. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 31, 1891.

c. Kibwezi, 3000 feet, Feb. 6, 1892.

87. NEPHERONIA THALASSINA.

Eronia thalassina (Boisd.); Kirby, op. cit. p. 481 (1871).
Nepheronia thalassina, Hampson, op. cit. (6) vii. p. 182 (1891, Sabaki River).

a-f. Kibwezi, 3000 feet, Feb. 6, 1892.

88. NEPHERONIA ARGIA.

Eronia argia (Fabr.); Kirby, op. cit. p. 481 (1871); Trimen, op. cit. iii. p. 179 (1889).

a. Teita, 2500 to 3000 feet.

89. NEPHERONIA BUQUETII.

Eronia buquetii (Boisd.); Kirby, op. cit. p. 481 (1871); Trimen, op. cit. iii. p. 177 (1889).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 5, 1891.

b. March from Voi River to Ndi, 1925 to 2300 feet, Jan. 8, 1892.

90. CALLIDRYAS FLORELLA.

Catopsilia florella (Fabr.); Kirby, op. cit. p. 481 (1871); Trimen, op. cit. iii. p. 185 (1889).

a. March from Maungu to Maragoyakanga, Jan. 1, 1892.

b. March from Voi River to Ndi, 1925 to 2300 feet, Jan. 8, 1892.

c-d. March from Mreru in Ndi to Tsavo, 2300 to 1650 feet, Jan. 9, 1892.

e. Nzoi, 3500 feet, Feb. 15, 1892.

91. CALLIDRYAS PYRENNE.

Catopsilia florella (Fabr., pt.); Kirby, op. cit. p. 481 (1871).

a-b. March from Teita, 3500 feet, to Voi River, 1200 feet, Jan. 6, 1892.

c. March from Mreru or Mbololo in Ndi to Tsavo, 2300 to 1650 feet, Jan. 11, 1892.

d. Nzoi, 3500 feet, Feb. 15, 1892.

92. COLIAS ELECTRA.

Colias electra (Linn.); Kirby, op. cit. p. 490 (1871); Trimen, op. cit. iii. p. 165 (1889).

a. March from Kikuyu to Victoria Nyanza *viâ* Mau and Sotik, 7000 to 8000 feet, May 1892.

93. TERACOLUS CHRYSONOME.

Idmais chrysonome (Klug); Kirby, op. cit. p. 498 (1871).

a, b. March from Maungu to Maragoyakanga, Jan. 1, 1892.

c, d. Teita District.

94. TERACOLUS AURIGINEUS.

Teracolus aurigineus, Butler, P. Z. S. 1888, p. 72 (Wadelai).

a-d. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

e, f. Voi River, 1600 feet, Jan. 20, 1892.

95. TERACOLUS ERIS.

Idmais eris (Klug); Kirby, op. cit. p. 499 (1871).

Teracolus eris, Trimen, op. cit. iii. p. 93 (1889); Hampson, op. cit. (6) vii. p. 181 (1891, Sabaki River).

a. March from Maungu to Maragoyakanga, Jan. 1, 1892.

b. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

c-e. Voi River, 1600 feet, Jan. 20, 1892.

96. TERACOLUS PHLEGYAS.

Callosune phlegyas, Butl.; Kirby, op. cit. p. 500 (1871).

Teracolus phlegyas, Trimen, op. cit. p. 109 (1889); Hampson, op. cit. (6) vii. p. 181 (1891, Sabaki River).

a-c. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

97. TERACOLUS IMPERATOR.

Callosune imperator, Butl.; Kirby, op. cit. App. p. 804 (1877).

Teracolus imperator, Hampson, op. cit. (6) vii. p. 181 (1891, Sabaki River).

a. Maungu Hill, 3600 feet, Dec. 30, 1891.

b. March from Teita, 3300 feet, to Voi River, 2100 feet, Jan. 6, 1892.

c. March from Voi River to Ndi, 2300 feet, Jan. 8, 1892.

98. TERACOLUS HETERA.

Callosune hetera, Gerst.; Kirby, op. cit. App. p. 804 (1877).

a-k. Maungu Hill, 3100 feet, Dec. 30, 1891.

l. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

99. TERACOLUS OMPHALE.

Callosune omphale (Godt.); Kirby, op. cit. p. 502 (1871).

Teracolus omphale, Trimen, op. cit. p. 142 (1889).

a. Maungu Hill, 3100 feet, Dec. 30, 1891.

b, c. Voi River, 1600 feet, Jan. 20, 1892.

d. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

100. TERACOLUS PHILLIPSII.

Teracolus phillipsii, Butl. P. Z. S. 1885, p. 772, pl. xlvii. fig. 11.

a. March from Maungu to Maragoyakanga, Jan. 1, 1892.

b. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

c. March from Voi River to Ndi, 1925 to 2300 feet, Jan. 8, 1892.

101. TERACOLUS MINANS.

Teracolus minans, Butler, Ent. M. Mag. xviii. p. 229 (1881-82).

a, b. March from Maungu to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

c. March from Voi River to Ndi, 1925 to 2300 feet, Jan. 8, 1892.

d-f. March from Mreru in Ndi, 2300 feet, to Tsavo, 1650 feet, Jan. 9, 1892.

102. TERACOLUS IGNIFER.

Callosune ignifer, Butl. ; Kirby, op. cit. App. p. 804 (1877).

a. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

b. March from Kikuyu to Victoria Nyanza *via* Mau and Sotik, May 4, 1892.

103. TERACOLUS PHÆNIUS.

Callosune phœnius, Butl. ; Kirby, op. cit. App. p. 805 (1877).

Teracolus phœnius, Hampson, op. cit. (6) vii. p. 181 (1891, Sabaki River).

a, b. March from Voi River to Ndi, 1925 to 2300 feet, Jan. 8, 1892.

c, d. March from Mreru in Ndi, 2300 feet, to Tsavo, 1650 feet, Jan. 9, 1892.

e. Voi River, 1600 feet, Jan. 20, 1892.

f, g. Nzoi, 3500 feet, Feb. 15, 1892.

104. TERACOLUS HANNINGTONI.

Teracolus hanningtoni, Butler, Ann. Nat. Hist. (5) xii. p. 104 (1883).

a. Nzoi, 3500 feet, Feb. 15, 1892.

105. TERACOLUS CALAIS.

Idmais calais (Fabr., pt.); Kirby, op. cit. p. 499 (1871).

a. March from Teita, 3500 feet, to Voi River, 2100 feet, Jan. 6, 1892.

b-e. March from Mreru in Ndi, 1330 feet, to Tsavo, 1650 feet, Jan. 9, 1892.

f, g. Voi River, 1600 feet, Jan. 23, 1890.

106. TERACOLUS INCRETUS.

Teracolus incretus, Butl. P. Z. S. 1888, p. 93 (Kilimanjaro).

a. Maungu Hill, 3100 feet, Dec. 30, 1891.

b. March from Maungu Hill to Maragoyakanga, 3100 to 2400 feet, Dec. 30, 1891.

c. March from Voi River to Ndi, 1925 to 2303 feet, Jan. 8, 1892.

d. Tsavo River.

e. Ndara Hill, Teita, 3300 feet, Feb. 3, 1892.

f-l. Nzoi, 3500 feet, Feb. 15, 1892.